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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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02/21/2006

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EXAMINER

RYMAN, DANIEL J

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,760

Applicant(s)

SIMONSEN ET AL.

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8, 9, 11-17 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 9, 11-17 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Examiner acknowledges the filing of an RCE on 13 January 2006.
2. Applicant's arguments filed 1/13/2006 have been fully considered but they are not persuasive. On page 8 of the Response, Applicant asserts that the newly added claim limitations are not disclosed by the cited prior art. Examiner disagrees and the rejection of the newly amended claims can be seen below. In addition, Examiner notes that Applicant has extensively used the phrases "adapted to" and "being capable of" throughout the claims. "Adapted to" and "being capable of" is "language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure." MPEP § 2106(II)(C). As such, Examiner submits the claims are currently very broad. For instance, when the language that does not limit the claim is taken out, claim 1 simply requires "a central node; at least one remote node; and a communications link comprising a TDMA link using bi-BPSK modulation, with a first channel operating at a lower data rate to achieve a high SNR, and a second channel providing bandwidth-on-demand for transferring only user data." For the foregoing reasons, Examiner maintains that the claims are obvious in view of the cited prior art.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-5, 8, 9, 11-17, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al. (USPN 5,369,637), of record, in view of Marshall (USPN 5,502,744), of record.

5. Regarding claims 1 and 12, Richardson discloses a communications system comprising: a central node (ref. BS: base station) adapted to transmit information over a broadcast link (downstream) to at least one remote node (ref. 16: mobile transceiver unit) (col. 2, lines 45-68) where “adapted to” is “language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure,” see MPEP § 2106(II)(C); at least one remote node adapted to receive information transmitted from the central node over the broadcast link (col. 2, lines 45-68) where it is implicit that the downstream link is broadcast to all nodes in the system and where “adapted to” is “language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure,” see MPEP § 2106(II)(C); and a communications link (upstream) comprising a time division multiple access link using bi-BPSK modulation (col. 2, line 3), with a first channel (ref. M, 22, and 26: control channel) to provide all link maintenance and management functions for the broadcast link and time division multiple access link (col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12) where it is implicit that a control channel is used to provide link maintenance and management functions, and a second channel (traffic channel) providing bandwidth-on-demand for transferring only user data and to meet bandwidth needs on demand of individual remote nodes (col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68), the communications link adapted to convey information from the remote node to the central node (col. 2, lines 45-68) where this is implicit in a communication system and where “adapted to” is “language that suggests or makes

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optional but does not require steps to be performed or does not limit a claim to a particular structure,” see MPEP § 2106(II)(C), the central node being adapted to provide slot timing and link synchronization via said first channel and to dynamically tailor a remote node transmit power control and a bandwidth as requested by the remote node for conveying information over the communications link (col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68) where “adapted to” is “language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure,” see MPEP § 2106(II)(C).

Richardson does not expressly disclose that the one first channel operates at a lower data rate to achieve a high signal-to-noise ratio and that the second channel is capable of operating at a higher data rate and lower SNR than the first channel. Marshall teaches, in a wireless communication system, transmitting an important signal at a lower data rate to achieve a high signal-to-noise ratio as compared to another signal in order to ensure that the important signal is properly received (col. 1, lines 48-61 and col. 5, lines 9-17) where control information is important since it is necessary for proper operation of the channel and where “being capable of” is “language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure,” see MPEP § 2106(II)(C). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to transmit the first channel at a lower data rate to achieve a high signal-to-noise ratio and to have the second channel be capable of operating at a higher data rate and lower SNR than the first channel in order to ensure that the first channel is properly received.

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6. Regarding claim 2, Richardson in view of Marshall discloses that the broadcast link transfers link maintenance information over the one channel from the central node to each of the remote nodes (Richardson: col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12).

7. Regarding claim 3, Richardson in view of Marshall discloses that the link maintenance information is data used to maintain and manage the broadcast link and the communications link (Richardson: col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12).

8. Regarding claim 4, Richardson in view of Marshall discloses that the broadcast link provides for transmission of link maintenance information from the central node to each of the at least one remote nodes (Richardson: col. 1, lines 49-56) where, as broadly defined “synchronization” is link maintenance information since it allows the link to be maintained.

9. Regarding claim 5, Richardson in view of Marshall discloses that the communications link comprises time division multiple access link using multi-phase shift key waveform (Richardson: col. 1, line 66-col. 2, line 4).

10. Regarding claim 8, Richardson in view of Marshall discloses that the one channel is adapted to provide slot timing, communications link synchronization and slot management functions, the slot management functions being independent of the other channels (Richardson: col. 1, lines 49-62).

11. Regarding claim 9, Richardson in view of Marshall discloses that the one channel is adapted to provide all management functions for the communications link and the other channel is adapted to meet remote node bandwidth needs on demand (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

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12. Regarding claim 11, Richardson in view of Marshall discloses that the other channel is adapted to adjust wideband channel performance for transfer of user data on a slot by slot basis (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

13. Regarding claim 13, Richardson in view of Marshall discloses that the first channel is an embedded, high signal-to-noise ratio, tracking channel (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68 and Marshall: col. 1, lines 48-61 and col. 5, lines 9-17).

14. Regarding claim 14, Richardson in view of Marshall discloses that the second channel is adapted to provide a dedicated conduit for transmitting user data from the remote node to the central node (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

15. Regarding claim 15, Richardson in view of Marshall discloses that the second channel is a channel adapted to be rate adjusted for an individual remote node to accommodate a required data bandwidth for the remote node (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68). Richardson in view of Marshall does not expressly disclose that the second channel is a wideband channel; however, Examiner takes official notice that it is well known in the art to use a wideband channel since this offers greater bandwidth compared to a narrowband channel. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a wideband channel in order to have a greater amount of bandwidth.

16. Regarding claim 16, Richardson in view of Marshall discloses that the time division multiple access link can adjust a performance of the wideband channel on a slot-by-slot basis (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

17. Regarding claim 17, Richardson in view of Marshall discloses each limitation of claim 17, as outlined in the rejection of claims 1 and 12, except requesting a new remote node transmit

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power control and a new transmit data bandwidth from the central node by sending a request from the remote node the central node over the time division multiple access communications link, and implementing the change one remote node slot time subsequent to the request.

However, Richardson in view of Marshall further discloses that a mobile unit is assigned a time slot by the base station based upon the mobile unit's need (Richardson: col. 3 lines 58-68 and col. 5, lines 49-54). Richardson in view of Marshall also discloses that the slots are reallocated when required (Richardson: col. 1, line 39-col. 2, line 9 and col. 3 lines 58-68). Thus, Richardson in view of Marshall suggests requesting a new remote node transmit power control and a new transmit data bandwidth from the central node by sending a request from the remote node the central node over the time division multiple access communications link (Richardson: col. 3 lines 58-68 and col. 5, lines 49-54), and implementing the change one remote node slot time subsequent to the request (Richardson: col. 1, line 39-col. 2, line 9 and col. 3 lines 58-68).

18. Regarding claim 19, Richardson in view of Marshall suggests that the step implementing the change further comprises the step of dynamically configuring the wideband channel to accommodate the new transmit data bandwidth on a slot by slot basis (Richardson: col. 3 lines 58-68 and col. 5, lines 49-54).

19. Regarding claim 20, Richardson in view of Marshall suggests the step of dynamically assigning one or more slots to a new remote node entering the network (Richardson: col. 1, line 39-col. 2, line 9; col. 3 lines 58-68; and col. 5, lines 49-54).

20. Regarding claim 21, Richardson in view of Marshall discloses the high signal to noise ratio channel used to maintain TDMA slots timing, link synchronization and slot management (Richardson: col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12), wherein the slot

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management is independent of a data transport channel (Richardson: col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12), where the data transport channel is a separate user channel used as a dedicated conduit for transport of user data that can be dynamically adapted to provide different power and rate control at each slot to provide optimal performance based on user needs and a link environment (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

21. Regarding claim 22, Richardson in view of Marshall discloses including only two separate channels in each slot, one channel being the high signal to noise ratio channel and the other being the wideband channel (Richardson: col. 3, lines 4-12).

22. Regarding claim 23, Richardson in view of Marshall discloses maintaining TDMA slot timing, link synchronization and slot management on the high signal-to-noise ratio channel (Richardson: col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12) and transporting data only on the wideband channel (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 Daniel J. Ryman
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Art Unit 2665


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